From: "Coffey, Scott" < CoffeySE@cdmsmith.com>

To: "Zhen, Davis" <Zhen.Davis@epa.gov>

CC: younghs@cdmsmith.com

"Fox, Mary" <FoxML@cdmsmith.com>

"Sheldrake, Sean" <sheldrake.sean@epa.gov>

"John Kern" (b) (6)

"Gustavson, Karl" <Gustavson.Karl@epa.gov>

Date: 5/9/2018 9:45:33 AM

Subject: RE: April 17 Email About QAPP

Tuesday afternoon would be the best time. Mary Lou (my QAPP subject matter expert) will be driving back Tuesday morning from a weekend and Monday of oversight work on the boats and will need time to get her thoughts and paperwork in order for the meeting.

From: Zhen, Davis <Zhen.Davis@epa.gov> Sent: Wednesday, May 09, 2018 9:38 AM To: Coffey, Scott <CoffeySE@cdmsmith.com>

Cc: Young, Howard S. <younghs@cdmsmith.com>; Fox, Mary <FoxML@cdmsmith.com>; Sheldrake, Sean <sheldrake.sean@epa.gov>; John Kern (b) (6) ; Gustavson, Karl <Gustavson.Karl@epa.gov>

Subject: RE: April 17 Email About QAPP

Scott,

We are combining the QAPP discussion with the summation rules. Ken and his crew are available Tuesday, please let me know whether you are available for the discussion.

Thanks,

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Davis Zhen, Manager Site Cleanup Unit 2 Office of Environmental Cleanup 1200 Sixth Avenue Suite 155 M/S ECL – 122, Seattle, WA 98101

Tel: (206) 553-7660 Cell: (206) 437-5826

\*\*\*\*\*\*\*\*\*\*\*

From: Coffey, Scott [mailto:CoffeySE@cdmsmith.com]

Sent: Tuesday, May 08, 2018 1:56 PM To: Zhen, Davis < Zhen. Davis@epa.gov>

Cc: Young, Howard S. <younghs@cdmsmith.com>; Fox, Mary <FoxML@cdmsmith.com>; Sheldrake, Sean <sheldrake.sean@epa.gov>; John Kern (b) (6) ; Gustavson, Karl <Gustavson, Karl@epa.gov>

Subject: RE: April 17 Email About QAPP

Ok.

Yes, they prepared a modified approach that Howard and I reviewed and commented on (see attached). I sent this off to John Kern yesterday morning for his review of our comments and to see if he had any revisions to these. I have not heard back from him. I'm Ccing him here and will try to reach him. His input/blessing of our comments is pretty critical before we take them to the Pre-RD Group. Whatever comments we have, I think we're going to be very firm on and not retract. That's my understanding.

As such, we need John to determine if the two bowl method is critical or not because we didn't see them adopt this in their current modified protocol, and I suspect they will not want to do this additional sampling for the bias evaluation. John – please let us know if this is a critical item that we must have, or one we can live without given their existing

sample data/field log descriptions.

Also Ccing Karl in case he has any words of wisdom related to our draft comments on their modified sampling protocol.

Scott

From: Zhen, Davis <Zhen.Davis@epa.gov> Sent: Tuesday, May 08, 2018 12:34 PM To: Coffey, Scott <CoffeySE@cdmsmith.com>

Cc: Young, Howard S. <younghs@cdmsmith.com>; Fox, Mary <FoxML@cdmsmith.com>; Sheldrake, Sean

<sheldrake.sean@epa.gov>

Subject: Re: April 17 Email About QAPP

Scott,

I pushed for the summation rule today, b/c I want to get that started anticipating additional talks.

On a separate note, have you heard back from Kern on their surface sediment revision? They will be out of soft sediment soon.

Thanks,

Sent from my iPhone, please excuse typos

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On May 8, 2018, at 12:20 PM, Coffey, Scott < CoffeySE@cdmsmith.com > wrote:

Ok.

Thursday works.

RE Summation rule discussion: Ken was the one that didn't want to discuss summation rules at this point. We're prepared to discuss and gave him responses and examples to address their questions and confusion. I'm really not sure what they continue to have issues with on the summation rule information and unwillingness to adopt it. I'm not sure how much time they will need to discuss, Ken hasn't been very forthcoming about their issues with our summing rules response. I've attached our responses again in this email.

Important to make sure Ken is aware of a need we captured in our Summing Rules response. They need to analyze the surface sediment for all Chlordanes because their QAPP is missing oxychlordane, cisnonachlor, and trans-nonachlor analytes. These three chlordanes should be added to this analysis.

Scott

From: Zhen, Davis <Zhen.Davis@epa.gov> Sent: Tuesday, May 08, 2018 9:55 AM

To: Coffey, Scott <CoffeySE@cdmsmith.com>; Young, Howard S. <younghs@cdmsmith.com>; Fox, Mary

<FoxML@cdmsmith.com>

Cc: Sheldrake, Sean <sheldrake.sean@epa.gov>

Subject: RE: April 17 Email About QAPP

I didn't think it would work given my email to him yesterday. So there will be a few phone calls to take place.

Let's reschedule one for Thursday, it that does not work, we can shoot for next week. I also want to wrap up the summation rule as well before it sits too long. Scott, for efficiency, can we have one QAPP call that discusses all of the issues. How much time will we need?

I told Ken I will respond to his QA/QC email with our analysis and he should come in for another variance request.

Thanks,

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Davis Zhen, Manager Site Cleanup Unit 2 Office of Environmental Cleanup 1200 Sixth Avenue Suite 155 M/S ECL – 122, Seattle, WA 98101

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From: Coffey, Scott [mailto:CoffeySE@cdmsmith.com]

Sent: Tuesday, May 08, 2018 9:47 AM

To: Zhen, Davis <Zhen.Davis@epa.gov>; Young, Howard S. <younghs@cdmsmith.com>; Fox, Mary

<FoxML@cdmsmith.com>

Cc: Sheldrake, Sean <sheldrake.sean@epa.gov>

Subject: RE: April 17 Email About QAPP

OK. Too bad it is cancelled now. I just prepared for it with Mary Lou (our QAPP subject matter expert).

Hopefully Ken reschedules soon so that we can get the remaining issues resolved with him. It will be good to get their updated RLSO with the revisions they say they are going to make in their email below, that might allow us to review and accept their changes on the remaining comments (except the summing rules)

RE #21 – it's related to both the FSP and QAPP. The problem is their narrative stating the sediment trap data can be used to estimate loading, which our subject matter experts disagree with. According to the Pre-RD Group response below, they will revise the statement to say that the sed. trap data can be used as a line of evidence to help refine sediment loading. I don't believe we're super comfortable with this language, but this data use was debated extensively during negotiations and we ended up with the "line of evidence" language in the AOC/work plan (see extracted language below), so I think we have to accept their proposed revision.

## **Sediment Traps**

Sediment traps will be deployed to provide a line of evidence on incoming sediment load to the Site that targets fine-grained, more mobile suspended sediment, and higher-TOC material that is more likely to move downstream and be deposited at the Site.

From: Zhen, Davis <Zhen.Davis@epa.gov> Sent: Tuesday, May 08, 2018 8:49 AM To: Coffey, Scott <CoffeySE@cdmsmith.com>; Young, Howard S. <younghs@cdmsmith.com>

Cc: Sheldrake, Sean <sheldrake.sean@epa.gov>

Subject: FW: April 17 Email About QAPP

Scott and Howard, for your review is Ken s answers. He has a conflict now, we will cancel the meeting. He had a question as to whether No. 21 is related more to FSP instead of QAPP. He will send over additional changes later today as well.

Thanks,

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Tel: (206) 553-7660 Cell: (206) 437-5826

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From: Tyrrell, Ken [mailto:ken.tyrrell@aecom.com]

Sent: Tuesday, May 08, 2018 8:16 AM To: Zhen, Davis <Zhen.Davis@epa.gov> Subject: April 17 Email About QAPP

Davis.

As you requested on April 9, we would like to set up a call to discuss the remaining concerns from EPA regarding the QAPP. However, before we set the call up, we would like to confirm the comments for discussion as there were some comment number errors on the RTC document. You indicated that the comments for discussion are primary comments 6 and 21 and To Be Considered comments 1, 6, and 23. I have copied the comments and our initial responses below. Please confirm that these are the correct comments intended for discussion.

## **Primary Comments**

6. Section 6.3.1, page 40, paragraph 3: The last sentence in this section states: "Where summing of the analytical results is required (e.g., total polycyclic aromatic hydrocarbons [PAHs]) the process referenced in Appendix A of the Remedial Investigation /Feasibility Study (RI/FS) report should be followed (EPA 2016a)." Please note, summing rules are being updated by EPA for key constituents. The updated summing rules are attached. The summation of analyte groups must be in accordance with the December 2017 updated rules for summing. The reference for the summing rules must be updated in the QAPP.

Pre-RD AOC Group Response: We need further clarification on the 2017 summing rules prior to adopting them and we look forward to the technical call to continue the discussion.

21. Table 3, Sediment Trap Study: The DQO for sediment traps should not list contaminant loading under Step 5. Sediment trap data can be useful for characterizing suspended sediment entering the site, but the design of sediment traps limits the potential for sediment to be resuspended in the water column once deposited. Therefore, the amount of sediment collected in the sediment trap will be useful for characterizing incoming sediment particles but is not useful for estimating contaminant loading.

Pre-RD AOC Group Response: We disagree. QAPP Table 3 and the DQO Step 5 text regarding use of sediment trap data for contaminant loading evaluations is appropriate.

Step 5 currently says "If sediment trap data indicate elevated concentrations of sediment COCs, the data will be used to refine the CSM; refine understanding of upstream conditions and contaminant loading into the Site for potential recontamination; and further inform remedial action objectives, if appropriate."

Revised text will state "If sediment trap data indicate elevated concentrations of sediment COCs, the data will be used to refine the CSM; refine understanding of upstream conditions into the Site for potential recontamination; serve as a line of evidence to help refine contaminant loading into the Site for potential recontamination; and further inform remedial action objectives, if appropriate."

## To Be Considered

1. Section 3.3.2, page 12, paragraph 3: Relative percent difference should be discussed in the first paragraph of Section 3.3.2 as it is calculated for two results to compare precision such as matrix spike/matrix spike duplicate (MS/MSD) and laboratory control sample/laboratory control sample duplicate.

Pre-RD AOC Group Response: The QAPP will revised to move the relative percent difference (RPD) discussion to the first paragraph of Section 3.3.2. Actually once we looked at the flow of the text, it ended up in the second paragraph but meets the intent of the comment.

6. Section 4.1.4, page 19, paragraph 1: It is stated that two sediment traps will be deployed at river mile (RM) 16.2, whereas the FSP for surface water and sediment trap sampling says they will be deployed at RM 16.5. The correct location should be the same in both documents.

Pre-RD AOC Group Response: Section 2.2.2 in the Surface Water/Sediment Trap FSP will be revised to state that the two sediment traps will be deployed at RM 16.2 such that the RM listed is consistent with Section 4.1.4 of the QAPP.

22. (this one should have been numbered 23) Figure 2: Figure 2 is not labeled "Figure 2" and the figure should list the "Pre-RD AOC Group" members in the box.

Pre-RD AOC Group Response: These corrections, labeling of Figure 2 and listing members in the Pre-RD AOC Group box, will be made in Figure 2.

## Ken Tyrrell

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